IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) An imaging tape cartridge picker system for use in aligning a tape cartridge picker with cartridges in cells of a tape cartridge magazine, comprising:

a picker assembly;

illumination sources disposed at the front of the picker assembly for illuminating an object;

an imager disposed on the front of the picker assembly for gathering image data of the object; and

a processor, coupled to the imager and illumination sources, for thresholding the image data obtained from the imager and for controlling the illumination sources;

wherein the processor uses bounding boxes to identify the location of a desired physical feature in the thresholded image.

2. (Original) The imaging tape cartridge picker system of claim 1 wherein the processor identifies the location of the desired physical feature using the bounding boxes by finding a vertical feature of the desired physical feature by finding a valid vertical bounding box, determining whether a valid vertical feature is found, using the valid vertical feature as a reference point for the search for the horizontal feature and finding a valid horizontal bounding box of the desired physical feature when a vertical feature is positively identified, determining whether a valid horizontal feature is found and identifying a top-left intersection of the vertical and horizontal bounding boxes with the bottom-right corner of the desired physical feature when a valid horizontal feature is found.

3. (Original) The imaging tape cartridge picker system of claim 2 wherein the desired physical feature comprises a top left intersection in a bottom-right corner of a vertical and horizontal member of a cartridge cell within a tape library system.

4. (Original) The imaging tape cartridge picker system of claim 3 wherein the position of the intersection relative to the imager is used to calibrate the physical position of the picker assembly.

5. (Original) The imaging tape cartridge picker system of claim 1 wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

6. (Original) The imaging tape cartridge picker system of claim 5 wherein the position of the intersection relative to the imager is used to calibrate the physical position of the picker assembly.

7. (Currently Amended) A method for use in aligning a tape cartridge picker with cartridges in cells of a tape cartridge magazine, comprising:

illuminating an object with an illumination source;

gathering image data for the illuminated object; ~~and~~

thresholding the image data; and

processing the thresholded image data by using bounding boxes to identify the location of a desired physical feature in the thresholded image data;

wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

8. (Original) The method of claim 7 wherein the processing the image data by using bounding boxes further comprises:

finding a vertical feature of the desired physical feature by finding a valid vertical bounding box;

determining whether a valid vertical feature is found;

using the valid vertical feature as a reference point for the search for the horizontal feature and finding a valid horizontal bounding box of the desired physical feature when a vertical feature is positively identified;

determining whether a valid horizontal feature is found; and

identifying a top-left intersection of the vertical and horizontal bounding boxes with the bottom-right corner of the desired physical feature when a valid horizontal feature is found.

9. (Original) The method of claim 8 wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

10. (Original) The method of claim 9 further comprising using the position of the intersection relative to the imager to calibrate the physical position of the picker assembly.

11. (Canceled)

12. (Previously Presented) The method of claim 7 further comprising using the position of the intersection relative to the imager to calibrate the physical position of the picker assembly.

13. (Currently Amended) An article of manufacture comprising a program storage medium readable by a computer, the medium tangibly embodying one or more programs of instructions executable by the computer to perform a method for use in aligning a tape cartridge picker with cartridges in cells of a tape cartridge magazine, the method comprising:

illuminating an object with an illumination source;

gathering image data for the illuminated object; ~~and~~

thresholding the image data; and

processing the thresholded image data by using bounding boxes to identify the location of a desired physical feature in the thresholded image data;

wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

14. (Original) The article of manufacture of claim 13 wherein the processing the image data by using bounding boxes further comprises:

finding a vertical feature of the desired physical feature by finding a valid vertical bounding box;

determining whether a valid vertical feature is found;

using the valid vertical feature as a reference point for the search for the horizontal feature and finding a valid horizontal bounding box of the desired physical feature when a vertical feature is positively identified;

determining whether a valid horizontal feature is found; and

identifying a top-left intersection of the vertical and horizontal bounding boxes with the bottom-right corner of the desired physical feature when a valid horizontal feature is found.

15. (Original) The article of manufacture of claim 14 wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

16. (Original) The article of manufacture of claim 15 further comprising using the position of the intersection relative to the imager to calibrate the physical position of the picker assembly.

17. (Canceled)

18. (Previously Presented) The article of manufacture of claim 13 further comprising using the position of the intersection relative to the imager to calibrate the physical position of the picker assembly.

19. (Original) An imaging tape cartridge picker system for use in aligning a tape cartridge picker with cartridges in cells of a tape cartridge magazine, comprising:

a picker assembly;

illuminating means disposed at the front of the picker assembly for illuminating an object;

imaging means disposed on the front of the picker assembly for gathering image data of the object; and

processing means, coupled to the imaging means and illuminating means, for thresholding the image data obtained from the imaging means and for controlling the illuminating means;

wherein the processing uses bounding boxes to identify the location of a desired physical feature in the thresholded image.

20. (Original) The imaging tape cartridge picker system of claim 19 wherein the processing means identifies the location of the desired physical feature using the bounding boxes by finding a vertical feature of the desired physical feature by finding a valid vertical bounding box, determining whether a valid vertical feature is found, using the valid vertical feature as a reference point for the search for the horizontal feature and finding a valid horizontal bounding box of the desired physical feature when a vertical feature is positively identified, determining whether a valid horizontal feature is found and identifying a top-left intersection of the vertical and horizontal bounding boxes with the bottom-right corner of the desired physical feature when a valid horizontal feature is found.

21. (Original) The imaging tape cartridge picker system of claim 20 wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

22. (Original) The imaging tape cartridge picker system of claim 21 wherein the position of the intersection relative to the imager is used to calibrate the physical position of the picker assembly.

23. (Original) The imaging tape cartridge picker system of claim 19 wherein the desired physical feature comprises a top left intersection of a vertical and horizontal member of a cartridge cell within a tape library system.

24. (Original) The imaging tape cartridge picker system of claim 23 wherein the position of the intersection relative to the imager is used to calibrate the physical position of the picker assembly.